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EXAMINER

NGUYEN, VAN H

ART UNIT	PAPER NUMBER
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2126

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/819,782

Applicant(s)

GOODING, THOMAS MICHAEL

Examiner

VAN H NGUYEN

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-46 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This Office Action is in response to amendment A filed December 29, 2003. Claims 1-46 remain in this application.

#### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. As to claim 1, the limitation “function” (lines 11) renders the claim indefinite because it is unclear which “function” is referred to? - Does applicant intend to mean – *the function*?

5. The limitation “the buffer” in claim 1 (line 6), claim 24 (line 8) and claim 35 (line 8) lacks antecedent basis. Claims 12, 25, and 35 have no “a buffer” term that defines or supports the given reference.

6. Dependent claims 2-11, 13-23, 25-34, and 36-46 are rejected for fully incorporating the deficiencies of their base claims.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3, 5-9, 11-19, 22-26, 28-32, 34-42, and 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Andrade et al.** (U.S. 5, 265,250).

9. **As to claim 12**, Andrade teaches the invention substantially as claimed a method for transparently executing function calls from a local node on a remote node (*abstract*), comprising:

- determining a remote node to execute a function (*col.5, lines 21-67; col.21, lines 30-64*);
- calling a route function configured to generate a buffer containing function related data (*col.5, lines 21-67; and fig.1 and associated text*);
- transmitting the buffer from the local node to the remote node; executing the function on the remote node; and transmitting results of the function to the local node (*col.6, line 33-col.7, line 5; col.8, lines 8-30;and col.21, lines 30-64*).

Andrade does not explicitly used the term “a flattened pure value buffer.”

However, Andrade, discloses “*typed buffer 127(1) contains data 131 which may be manipulated by application program 105(1)*” (*col.5, lines 21-49*).

It would have been obvious to one of ordinary skill in the art to have applied the teaching of Andrade for “a flattened pure value buffer” in order to provide a means for improving throughput on a data network.

10. **As to claim 13**, Andrade teaches reading a parameter associated with the function, wherein the parameter indicates the remote node for execution of the function (*col.21, lines 30-64*).

11. **As to claim 14**, Andrade teaches generating a text string, wherein each element of the text string identifies the data type of a portion of the function related data; and bundling the function related data (*col.23, lines 1-34*).

12. **As to claim 15**, Andrade teaches a DTSTRUCT string (*col.23, lines 1-34*).

13. **As to claim 16**, Andrade teaches flattening the function related data (*col.5, lines 21-67; col.6, line 33-col.7, line 5; and col.8, lines 8-30*).

14. **As to claim 17**, Andrade teaches unbundling the function related data; computing the function; and bundling the reply to the function (*col.20, line 35-col.21, line 29*).

15. **As to claim 18**, Andrade teaches unflattering and flattening, respectively (*col.20, line 35-col.21, line 29*).

16. **As to claim 19**, Andrade teaches looking up a function pointer that indicates the location of the function to the remote node (*col.13, lines 13-15 and col.21, lines 30-64; and col.22, lines 57-64*).

17. **As to claim 22**, Andrade teaches unflattering the results (*col.20, line 35-col.21, line 29*).

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18. **As to claim 23**, Andrade teaches queuing at least one of pre-flattened commands and flattened commands prior to transmission to the remote node; and cooperatively executing the queued commands in a single network transaction (*fig.3 and associated text*).

19. **As to claim 1**, the rejection of claim 12 above is incorporated herein in full. Claim 1, however, further recites “generating a descriptive data structure for function related data - flattening the data structure and the pure value buffer into a bundle transmitting the flattened data structure and descriptive data to the remote node.”

Andrade teaches generating a descriptive data structure for function related data - flattening the data structure and the buffer into a bundle transmitting the flattened data structure and descriptive data to the remote node (*col.5, lines 21-67; col.6, line 33-col.7, line 5; and col.8, lines 8-30*).

Note the discussion of claim 12 above for the pure value buffer.

20. **As to claim 2**, Andrade teaches a DTSTRUCT string (*col.23, lines 1-34*).

21. **As to claim 3**, Andrade teaches a data-only buffer (*col.5, lines 21-49*).

22. **As to claim 5**, Andrade teaches a parameter associated with the function, wherein the parameter associated with the function indicates where the function may be executed (*col.21, lines 30-64*).

23. **As to claim 6**, Andrade teaches assembling variable argument indicated in the route function into a buffer (*col.5, lines 21-49 and col.21, lines 30-64*).

24. **As to claim 7**, Andrade teaches receiving the bundle on the remote node; unpack aging the bundle on the remote node; computing the function on the remote node; and packaging a function reply (*col.20, line 35-col.21, line 29*).

25. **As to claim 8**, Andrade teaches flattening the function reply (*col.20, line 35-col.21, line 29*).
26. **As to claim 9**, Andrade teaches unflattering the bundle (*col.20, line 35-col.21, line 29*).
27. **As to claim 11**, Andrade teaches queuing at least one of pre-flattened commands and flattened commands prior to transmission to a remote node; and cooperatively executing the queued commands in a single network transaction (*fig.3 and associated text*).
28. **As to claim 24**, it is directed to a computer readable medium for implementing the method of claim 1, and is similarly rejected under the same rationale.
- However, claim 24 further recites “transferring the buffer to the remote node.”
- Andrade teaches transferring the buffer to the remote node (*col.6, line 33-col.7, line 5; col.8, lines 8-30;and col.8, lines 8-30*).
29. **As to claim 25**, Andrade teaches generating a parameter representative of the function related data; and packing the function related data and the generated parameter for transmission to the remote node (*col.21, lines 30-64*).
30. **As to claim 26**, the a parameter representative of the function related data further comprise a text string, wherein each character in the text string corresponds to a particular data type (*col.23, lines 1-34*).
31. **As to claim 28**, it is directed to a computer readable medium for implementing the method of claim 13, and is similarly rejected under the same rationale.
32. **As to claims 29-32**, they are directed to a computer readable medium for implementing the method of claims 6-9, and are similarly rejected under the same rationale.

33. **As to claim 34**, it is directed to a computer readable medium for implementing the method of claim 11, and is similarly rejected under the same rationale.

34. **As to claim 35**, it is directed to a computer readable medium for implementing the method of claims 12, and is similarly rejected under the same rationale.

36. **As to claims 35-42 and 45-46**, they are directed to a computer readable medium for implementing the method of claims 12-19 and 22-23, and are similarly rejected under the same rationale.

37. Claims 4, 10, 20-21, 27, 33, and 43-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Andrade et al.** in view of **Pettus** (U.S.6,223,217 B1).

38. **As to claim 4**, Andrade does not explicitly teach determining if the bundle is cacheable; determining if the bundle is available in cache memory if it is determined to be cacheable; and retrieving a cached reply from the cache memory of the bundle is determined to be cacheable and available in cache memory.

Pettus teaches determining if the bundle is cacheable; determining if the bundle is available in cache memory if it is determined to be cacheable; and retrieving a cached reply from the cache memory of the bundle is determined to be cacheable and available in cache memory. (*col.14, lines 28-58*).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Andrade with Pettus because Pettus's teaching would have provided the capability for dramatically improving the performance of the system, because cache memory is always faster than main RAM memory.



39. **As to claim 10**, Andrade teaches receiving the transmitted results of the function on the local node (*col.6, line 33-col.7, line 5; col.8, lines 8-30;and col.21, lines 30-64*).

Andrade, however, does not explicitly teach determining if the transmitted results are cacheable; and storing the transmitted results in a cache memory if the transmitted results are determined to be cacheable.

Pettus teaches determining if the transmitted results are cacheable; and storing the transmitted results in a cache memory if the transmitted results are determined to be cacheable (*col.14, lines 28-58*).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Andrade with Pettus because Pettus's teaching would have provided the capability for dramatically improving the performance of the system, because cache memory is always faster than main RAM memory.

40. **As to claim 20**, Andrade does not explicitly teach determining if the function related data is cacheable and storing the function related data in cache memory if the function related data is determined to be cacheable.

Pettus teaches determining if the function related data is cacheable and storing the function related data in cache memory if the function related data is determined to be cacheable (*col.14, lines 28-58*).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Andrade with Pettus because Pettus's teaching would have provided the capability for dramatically improving the performance of the system, because cache memory is always faster than main RAM memory.

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42. **As to claim 21**, it is directed to a computer readable medium for implementing the method of claim 10, and is similarly rejected under the same rationale.

43. **As to claim 27**, it is directed to a computer readable medium for implementing the method of claim 4, and is similarly rejected under the same rationale.

44. **As to claim 33**, it is directed to a computer readable medium for implementing the method of claim 10, and is similarly rejected under the same rationale.

45. **As to claims 43 and 44**, they are directed to a computer readable medium for implementing the method of claims 20 and 10, respectively, and are similarly rejected under the same rationale.

### ***Response to Arguments***

46. Applicant's arguments filed on December 29, 2003 have been fully considered, but are deemed to be moot in view of the new grounds of rejection necessitated by Applicant's amendments.

### ***Conclusion***

47. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(x). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(x).

48. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

49. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN H NGUYEN whose telephone number is (703) 306-5971. The examiner can normally be reached on Monday-Thursday from 8:30AM - 6:00PM. The examiner can also be reached on alternative Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (703) 305-9678.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9000.


**Any response to this action should be mailed to:**

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

**or fax to:**

(703) 746-7239 (for formal communications intended for entry)  
(703) 746-7238 (for After Final communications)  
(703) 746-7240 (for informal or draft communications)

VHN

  
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